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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,925	03/22/2004	Diane M. Landers	DP-310838	2044

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EXAMINER	
SHARON, AYAL I	
ART UNIT	**PAPER NUMBER**
2123	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/805,925	LANDERS ET AL.	
	Examiner	Art Unit	
	Ayal I. Sharon	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-36 and 38-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-36 and 38-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. Claims 1-12, 14-36, and 38-45 of U.S. Application 10/805,925 filed on 3/22/2004 are currently pending.
2. Claims 13, 37 and 46 have been cancelled.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-12, 14-36, and 38-45 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Independent claim 1 refers to a "base feature" in line 3, and "each feature" in line 6. It is not clear whether the "each said feature" in line 10 refers to "each feature" in line 6 exclusively, or also to "base feature" in line 3.
6. Independent claim 1 also refers to a "reference feature" in line 12. It is not clear if the "said feature" in lines 12, 14, 16, 19, 26, and 27 refers to the "reference feature", "base feature", or the "each feature" in line 6, or some combination of these.

7. Independent claims 21 and 45 share these defects. All dependent claims inherit these defects.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. The prior art used for these rejections is as follows:

   a. U.S. Patent 6,985,793 to Landers et al. Filed on Jan. 31, 2003. ("**Landers**").

10. The claim rejections are hereby summarized for Applicant's convenience. The detailed rejections follow.

11. **Claims 1-12, 14-36, and 38-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Landers.**

12. In regards to Claim 1, Landers teaches the following limitations:

> *1. (Currently amended) A method for converting a vertically structured CAD/CAM model to a horizontally structured CAD/CAM model, comprising:*
> *identifying and establishing a base feature of the vertical model;*
> *establishing a parent coordinate system for the horizontal model;*
> *identifying a parent modeling element of the vertical model; and*
> *identifying each dependency for each feature from said parent modeling element;*

wherein converting a vertically structured CAD/CAM model to a horizontally structured CAD/CAM model is performed by:
restructuring each dependency for each said feature for placement with respect to the horizontal model, such that each feature exhibits a direct associative relationship with a reference feature, [[;]] said restructuring including:
determining if said feature is dependent on an existing datum for placement;
if said feature is dependent on an existing datum for placement, then performing at least one of:
configuring a new reference feature for placement of said feature wherein said reference feature is a descendent of said parent coordinate system and establishing an associative relationship between said feature and said new reference feature, then deleting said dependency,
reconfiguring said existing datum as a descendant of said parent coordinate system; and
establishing an associative relationship with at least one of said parent coordinate system and a descendent reference feature therefrom and deleting said dependency; and
restructuring each dependency for each said feature for positioning with respect to the horizontal model, such that each feature exhibits a direct associative relationship with another reference feature.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

13. In regards to Claim 2, Landers teaches the following limitations:

2. (Original) The method of Claim 1 wherein said reference feature includes:
said parent coordinate system,
a child coordinate system exhibiting an associative relationship with said parent coordinate system,
a first datum exhibiting an associative relationship with at least one of said parent coordinate system and said child coordinate system, and
a second datum exhibiting an associative relationship with said first datum.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

14. In regards to Claim 3, Landers teaches the following limitations:

3. (Original) The method of Claim 1 wherein said another reference feature includes:
said parent coordinate system,
said child coordinate system exhibiting an associative relationship with said parent coordinate system,
a third datum exhibiting an associative relationship with at least one of said parent coordinate system and said child coordinate system, and
a fourth datum exhibiting an associative relationship with said third datum.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

15. In regards to Claim 4, Landers teaches the following limitations:

4. (Original) The method of Claim I further including identifying a primitive element in said vertically structured CAD/CAM model.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

16. In regards to Claim 5, Landers teaches the following limitations:

5. (Original) The method of Claim 4 further including converting said primitive element to a feature.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

17. In regards to Claim 6, Landers teaches the following limitations:

6. (Original) The method of Claim 5 wherein said converting includes establishing a new feature corresponding to said primitive element such that said new feature exhibits an associative relationship with at least one of said parent coordinate system and a child thereof for placement and positioning; and such that said new feature; exhibits an associative relationship with at least one of said parent coordinate system and a child thereof for positioning.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

18. In regards to Claim 7, Landers teaches the following limitations:

7. (Original) The method of Claim 6 wherein said associative relationship is a parent/child relationship.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

19. In regards to Claim 8, Landers teaches the following limitations:

8. (Original) The method of Claim 1 wherein said base feature corresponds to a selected primitive element in said vertically structured CAD/CAM model.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

20. In regards to Claim 9, Landers teaches the following limitations:

9. (Original) The method of Claim 1 wherein said establishing said parent coordinate system comprises:
reference;
creating a first datum plane positioned and oriented relative to a
creating a second datum plane positioned and oriented relative to said reference; and
creating a third datum plane positioned and oriented relative to said reference.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

21. In regards to Claim 10, Landers teaches the following limitations:

10. (Currently amended) The method of Claim 9__[[6]] wherein said first datum plane, said second datum plane, and said third datum plane are orthogonal.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

22. In regards to Claim 11, Landers teaches the following limitations:

11. (Original) The method of Claim 1 wherein said feature dependent from said parent modeling element exhibits a parent child relationship with at least one of said parent modeling element and a descendent thereof such that positioning and placement of said dependent features is relative to

said at least one of said parent modeling element and said descendent thereof.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

23. In regards to Claim 12, Landers teaches the following limitations:

12. (Original) The method of Claim 11 wherein at least one of said associative relationship and said another associative relationship is a parent/child relationship.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

24. In regards to Claim 14, Landers teaches the following limitations:

14. (Currently amended) The method of Claim 1 wherein said associative relationship is a parent/child relationship.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

25. In regards to Claim 15, Landers teaches the following limitations:

15. (Original) The method of Claim 1 wherein said restructuring each dependency for each said feature for positioning further includes:
determining if said feature is dependent on at least one existing datum for positioning;
if said feature is dependent on said at least one existing datum for positioning, then at least one of:
configuring a new reference feature for positioning of said feature wherein said reference feature is a descendent of said parent coordinate system and establishing an associative relationship between said feature and said new reference feature, then deleting said dependency,
reconfiguring said at least one existing datum as a descendant of said parent coordinate system;
establishing an associative relationship with at least one of said parent coordinate system and a descendent reference feature therefrom and deleting said dependency.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

26. In regards to Claim 16, Landers teaches the following limitations:

> *16. (Original) The method of Claim 15 wherein said associative relationship is a parent/child relationship.*

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

27. In regards to Claim 17, Landers teaches the following limitations:

> *17. (Original) The method of Claim 1 wherein none of said features exhibits an associative relationship with any other feature.*

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

28. In regards to Claim 18, Landers teaches the following limitations:

> *18. (Original) The method of Claim 1 wherein none of said features exhibits an associative relationship with said base feature.*

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

29. In regards to Claim 19, Landers teaches the following limitations:

> *19. (Original) The method of Claim 1 wherein said base feature exhibits an associative relationship with at least one of said coordinate system and a descendent thereof.*

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

30. In regards to Claim 20, Landers teaches the following limitations:

> *20. (Original) The method of Claim 1 wherein a descendent of said coordinate system includes at least one of a reference, point, line, datum plane and another coordinate system positioned and oriented relative to said coordinate system.*

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

31. In regards to Claim 21, Landers teaches the following limitations:

21. (Currently amended) A system for converting a vertically structured CAD/CAM model to a horizontally structured CAD/CAM model, comprising:
a computer; and
a computer program executing on the computer, the computer program implementing a method, comprising:
identifying and establishing a base feature of the vertical model;
establishing a parent coordinate system for the horizontal model;
identifying a parent modeling element of the vertical model; and
identifying each dependency for each feature from said parent modeling element;
wherein converting a vertically structured CAD/CAM model to a horizontally structured CAD/CAM model is performed by:
restructuring each dependency for each said feature for placement with respect to the horizontal model, such that each feature exhibits a direct associative relationship with a reference feature, said restructuring including:
placement;
determining if said feature is dependent on an existing datum for
if said feature is dependent on an existing datum for placement, then performing at least one of:
configuring a new reference feature for placement of said feature wherein said reference feature is a descendent of said parent coordinate system and establishing an associative relationship between said feature and said new reference feature, then deleting said dependency,
reconfiguring said existing datum as a descendant of said parent coordinate system; and
establishing an associative relationship with at least one of said parent coordinate system and a descendent reference feature therefrom and deleting said dependency; and
restructuring each dependency for each said feature for positioning with respect to the horizontal model, such that each feature exhibits a direct associative relationship with another reference feature.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

32. In regards to Claim 22, Landers teaches the following limitations:

22. (Original) The system of Claim 21 wherein said reference feature includes:
a parent coordinate system,

a child coordinate system exhibiting an associative relationship with said parent coordinate system,
a first datum exhibiting an associative relationship with at least one of said parent coordinate system and said child coordinate system, and
a second datum exhibiting an associative relationship with said first datum.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

33. In regards to Claim 23, Landers teaches the following limitations:

23.(Original) The system of Claim 21 wherein said another reference feature includes:
a parent coordinate system,
a child coordinate system exhibiting an associative relationship with said parent coordinate system,
a third datum exhibiting an associative relationship with at least one of said parent coordinate system and said child coordinate system, and
a fourth datum exhibiting an associative relationship with said third datum.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

34. In regards to Claim 24, Landers teaches the following limitations:

24. (Currently amended) The system of Claim 21 wherein at least one of said associative relationship and said another associative relationship is a parent/child relationship.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

35. In regards to Claim 25, Landers teaches the following limitations:

25. (Currently amended) The system of Claim 21 wherein said feature exhibits an associative relationship with said base feature.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

36. In regards to Claim 26, Landers teaches the following limitations:

26. (Currently amended) The system of Claim 21 wherein said base feature exhibits an associative relationship with at least one of said reference feature and a descendant thereof.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

37. In regards to Claim 27, Landers teaches the following limitations:

27. (Original) The system of Claim 1 further including identifying a primitive element in said vertically structured CAD/CAM model.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

38. In regards to Claim 28, Landers teaches the following limitations:

28. (Original) The system of Claim 27 further including a new feature established by converting said primitive element to a feature corresponding to said primitive element such that said new feature exhibits an associative relationship with at least one of said parent coordinate system and a child thereof for placement and positioning; and such that said new feature; exhibits an associative relationship with at least one of said parent coordinate system and a child thereof for positioning.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

39. In regards to Claim 29, Landers teaches the following limitations:

29. (Original) The system of Claim 28 wherein said associative relationship is a parent/child relationship.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

40. In regards to Claim 30, Landers teaches the following limitations:

30. (Original) The system of Claim 21 wherein said base feature corresponds to a selected primitive element in said vertically structured CAD/CAM model.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

41. In regards to Claim 31, Landers teaches the following limitations:

31. (Currently amended) The system of Claim 21 wherein said reference feature comprises a coordinate system.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

42. In regards to Claim 32, Landers teaches the following limitations:

32. (Currently amended) The system of Claim 31 wherein said coordinate system comprises:
reference;
a first datum plane positioned and oriented relative to a
a second datum plane positioned and oriented relative to said reference; and
a third datum plane positioned and oriented relative to said reference.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

43. In regards to Claim 33, Landers teaches the following limitations:

33. (Currently amended) The system of Claim 32 wherein said first datum plane, said second datum plane, and said third datum plane are orthogonal.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

44. In regards to Claim 34, Landers teaches the following limitations:

34. (Currently amended) The system of Claim 21 wherein said reference feature comprises at least one of said coordinate system, another coordinate system, a point, line curve, surface, and datum plane.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

45. In regards to Claim 35, Landers teaches the following limitations:

35. (Original) The system of Claim 21 wherein said restructuring each dependency for each said feature includes:
a dependency established for each said feature for placement includes establishing an associative relationship with said reference feature to control placement of each said feature;
a dependency established dependency for each said feature for positioning includes establishing another associative relationship with said another reference feature to control positioning of each said feature; and
deletion of any existing associative relationships to said at least one of said parent modeling element and a child thereof.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

46. In regards to Claim 36, Landers teaches the following limitations:

36. (Original) The system of Claim 35 wherein at least one of said associative relationship and said another associative relationship is a parent/child relationship.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

47. In regards to Claim 38, Landers teaches the following limitations:

38. (Original) The system of Claim 21 [[37]] wherein said associative relationship is a parent/child relationship.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

48. In regards to Claim 39, Landers teaches the following limitations:

39. (Original) The system of Claim 21 wherein said restructuring each dependency for each said feature for positioning further includes:
if said feature is dependent on said at least one existing datum for positioning, then at least one of:
a new reference feature is configured for positioning of said feature wherein said reference feature is a descendent of a parent coordinate system and establishing an associative relationship between said feature and said new reference feature, then deleting said dependency,
said at least one existing datum is reconfigured as a descendant of said parent coordinate system;
an associative relationship is established with at least one of said parent

coordinate system and a descendent reference feature therefrom and deleting said dependency.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

49. In regards to Claim 40, Landers teaches the following limitations:

40. (Original) The system of Claim 39 wherein said associative relationship is a parent/child relationship.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

50. In regards to Claim 41, Landers teaches the following limitations:

41. (Original) The system of Claim 21 wherein none of said features exhibits an associative relationship with any other feature.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

51. In regards to Claim 42, Landers teaches the following limitations:

42. (Original) The system of Claim 21 wherein none of said features exhibits an associative relationship with said base feature.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

52. In regards to Claim 43, Landers teaches the following limitations:

43. (Original) The system of Claim 21 wherein said base feature exhibits an associative relationship with at least one of said coordinate system and a descendent thereof.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

53. In regards to Claim 44, Landers teaches the following limitations:

44. (Original) The system of Claim 21 wherein a descendent of said coordinate system includes at least one of a reference, point, line, datum plane and another coordinate system positioned and oriented relative to

said coordinate system.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

54. In regards to Claim 45, Landers teaches the following limitations:

45. (Currently amended) A storage medium encoded with a machine-readable computer program code, wherein said storage medium includes instructions for causing a computer to implement a method for converting a vertically structured CAD/CAM model to a horizontally structured CAD/CAM model comprising:
identifying and establishing a base feature of the vertical model;
establishing a parent coordinate system for the horizontal model;
identifying a parent modeling element of the vertical model; and
identifying each dependency for each feature from said parent modeling element;
wherein converting said vertically structured CAD/CAM model to a horizontally structured CAD/CAM model is performed by:
restructuring each dependency for each said feature for placement with respect to the horizontal model, such that each feature exhibits a direct associative relationship with a reference feature~ [[;]] said restructuring including:
placement;
determining if said feature is dependent on an existing datum for
if said feature is dependent on an existing datum for placement, then performing at least one of:
configuring a new reference feature for placement of said feature wherein said reference feature is a descendent of said parent
coordinate system and establishing an associative relationship between said feature and said new reference feature, then deleting said dependency,
reconfiguring said existing datum as a descendant of said parent coordinate system; and
establishing an associative relationship with at least one of said parent coordinate system and a descendent reference feature therefrom and deleting said dependency; and
restructuring each dependency for each said feature for positioning with respect to the horizontal model, such that each feature exhibits a direct associative relationship with another reference feature.

(See Landers, especially: Figs.1-23 and associated text; col.2, line 60 to col.4, line 17; col.5, line 33, to col.10, line 50)

Response to Arguments

Re: Claim Objections

55. Applicants persuasively argue in the amendment filed 1/13/2007 (see p.16) that the amended limitations in claims 1 and 45 "clarify the conversion process of the vertically structured model to the horizontally structured model. (Claim 46 has been cancelled). The objections have been withdrawn.

Re: Claim Rejections - 35 USC § 101

56. In regards to claims 1-20 and 45, the Applicants persuasively argue in the amendment filed 1/13/2007 (see p.16) that the amended independent claims 1 and 45 overcome the 35 USC § 101 rejections by presenting a concrete, useful, and tangible result. The result of a CAD/CAM model that has been converted from a vertical structure to a horizontal structure has practical utility, for example, making the subsequent modification process easier and less time consuming (see p.1 of the specification). Moreover, since the conversion process must be performed on a computer, the process and the result are tangible. ("CAD" is an acronym for "Computer Aided Design", and "CAM" is an acronym for "Computer Aided Manufacturing". Both require a computer).

57. The 35 USC § 101 rejections of claims 1-20 and 45 based on the lack of a concrete, useful, tangible result have been withdrawn.

58. In regards to claims 21-44, the Applicants persuasively argue in the amendment filed 1/13/2007 (see p.16) that the amended independent claim 21 no longer

recites software *per se*. Examiner agrees, and has withdrawn the relevant 35 USC § 101 rejections.

59. In regards to claim 46, the Applicants have cancelled this claim, rendering the rejection moot.

Re: Claim Rejections - 35 USC § 102

60. New art rejections have been applied, as necessitated by amendment.

Conclusion

61. The following prior art, made of record and not relied upon, is considered pertinent to applicant's disclosure.

    a. Han, JungHyun and Aristides Requicha. "Feature Recognition from CAD Models." IEEE Computer Graphics and Applications. March/April 1998. pp.80-94. (Teaches "feature model conversion" on pp.80-81).

    b. Han, Jung Hyun et al. "Manufacturing Feature Recognition Toward Integration with Process Planning." IEEE Transactions on Systems, Man, and Cybernetics. June 2001. Vol.31, No.3. pp.373-380. (Teaches "Manufacturability and Feature Dependency" on pp.375-376).

62. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a bi-week, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753.

Any response to this office action should be faxed to (571) 273-8300, or mailed to:

USPTO
P.O. Box 1450
Alexandria, VA 22313-1450

or hand carried to:

USPTO
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272-2100.

Ayal I. Sharon
Art Unit 2123
April 15, 2007

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

4/16/07